

REMARKS

This is a full and timely response to the Office Action mailed November 28, 2005, submitted concurrently with a three month extension of time to extend the due date for response to May 30, 2006.

No claims have been amended in this response. Thus, claims 2-8 are pending in this application, with claims 4-7 being withdrawn.

In view of this Amendment, Applicant requests favorable reexamination and reconsideration in light of the above amendments and the following remarks.

Rejection under 35 U.S.C. §103

Claims 2, 3 and 8 are rejected under 35 U.S.C. §103(a) as allegedly being obvious over Yukinobu et al. (U.S. Patent No. 5,411,792) in view of Sumitomo Cement KK (JP 06-087631-A). Applicant again respectfully traverses this rejection.

To establish a *prima facie* case of obviousness, the cited references, in combination, must teach or suggest the invention as a whole, including all the limitations of the claims. Here, in this case, the combination of Yukinobu et al. and Sumitomo Cement KK fails to teach or suggest the claimed limitation “*a compressed layer on a support, said compressed layer having conductive particles and a resin, said resin being approximately 0.03-9.3 parts by volume with respect to 100 parts by volume of said conductive particles, said compressed layer formed by compressing the conductive particles and the resin on the support with a compression force of at least 44N/mm²*”. In particular, the combination of Yukinobu et al. and Sumitomo Cement KK fails to teach or suggest the specific claimed limitations “*said resin being approximately 0.03-9.3 parts by volume with respect to 100 parts by volume of said conductive particles*” and “*said compressed layer formed by compressing the conductive particles and the resin on the support with a compression force of at least 44N/mm²*”.

As stated in Applicant's Amendment dated September 2, 2005, Sumitomo Cement KK discloses in paragraph [0007] that “*said high conductivity layer is formed by the conductive paint whose rate of the transparent conductive filler in said content is 62.5-100 wt%*”. In other words, the resin may be contained in an amount of 0 to 37.5 wt% in the conductive paint. This resin amount of 0 to 37.5 wt% in Sumitomo Cement KK corresponds, as represented by volume, a much broader range of 0-296 parts by volume with respect to 100 parts by volume of the conductive particles.

The Examiner found Applicant's previously submitted arguments to be unpersuasive since the claimed range is still completely encompassed by the range disclosed in Sumitomo Cement KK's and there is presently no evidence on record showing that the claimed range achieves unexpected results. However, Applicant strongly disagrees with the Examiner in this regard.

Based on the experimental data in the Examples and Comparative Examples of the specification, Applicant have clearly shown on the record that the claimed range of "*0.03-9.3 parts by volume*" achieve superior results not expected based on the teachings of Sumitomo Cement KK.

The resin amount of 296 parts by volume taught in Sumitomo Cement KK falls between 147 parts by volume in Comparative Examples 9 & 10 and 367 parts by volume in Comparative Examples 11 & 12 of the present specification. In these Comparative Examples, the electric resistance values are high while in Examples 1 to 6 in which the resin amount is in a range from 0.037 to 9.3 parts by volume, the electric resistance values are very low (see page 49 line 25 to page 50 line 19 of the specification). Thus, contrary to the Examiner's assertions in the action, unexpected and superior properties of the claimed range (i.e. the presence of resin in an amount of 0.037 to 9.3 parts by volume) are fully demonstrated by the Examples and Comparative Examples of the present specification.

As stated in the specification, it was considered in the prior art that a conductive film having a low electric resistance value cannot be formed as shown in Japanese Laid-open Patent Publication No. 9-109259 (1997) without the use of a large amount of binder resin. The present invention overcome the problems of the prior art by obtaining a transparent conductive film having a mechanical strength, a low electric resistance value, and little scattering even without the use of a large amount of resin serving as a binder and without calcining at a high temperature. Such superior properties are not at all taught in the cited references especially since Sumitomo Cement KK teach a range (below 0.037 by volume and above 9.3 parts by volume) which, as shown in the Comparative Examples, do not possess the superior properties of the present invention. As the Examiner already knows, a showing of superior and unexpected properties can rebut a *prima facie* case of obviousness. *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963).

In addition, Sumitomo Cement KK discloses in its paragraph [0019] the necessity of curing the binder in the reinforcement layer in order to settle and firmly fix the conductive filler

onto the glass substrate. Sumitomo Cement KK also discloses in its paragraph [0021] (Example 1) that the curing was conducted in the means of heat treatment at a high temperature, namely at 180°C for 30 minutes. However, the present specification, from page 5, lines 5, to page 6 line 12, explains problems such as deformation of resin film substrate and generation of cracks caused by heat treatment at such a high temperature. In other words, Sumitomo Cement KK never solves the problems that are brought about due to the heat treatment at a high temperature. Hence, it is clear that one skilled in the art would not be motivated based on the teachings of the cited references to modify the range of 0-296 parts by volume to arrive at the claimed range (i.e. 0.037 to 9.3 parts by volume) of the present invention

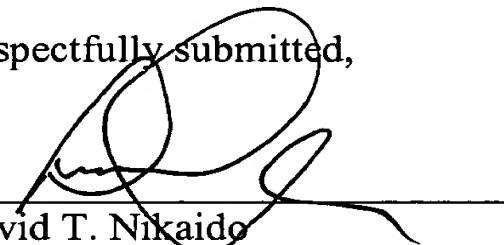
Thus, for these reasons, withdrawal of this rejection is respectfully requested.

CONCLUSION

For the foregoing reasons, all the claims now pending in the present application are believed to be clearly patentable over the outstanding rejections. Accordingly, favorable reconsideration of the claims in light of the above remarks is courteously solicited. If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

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Respectfully submitted,

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